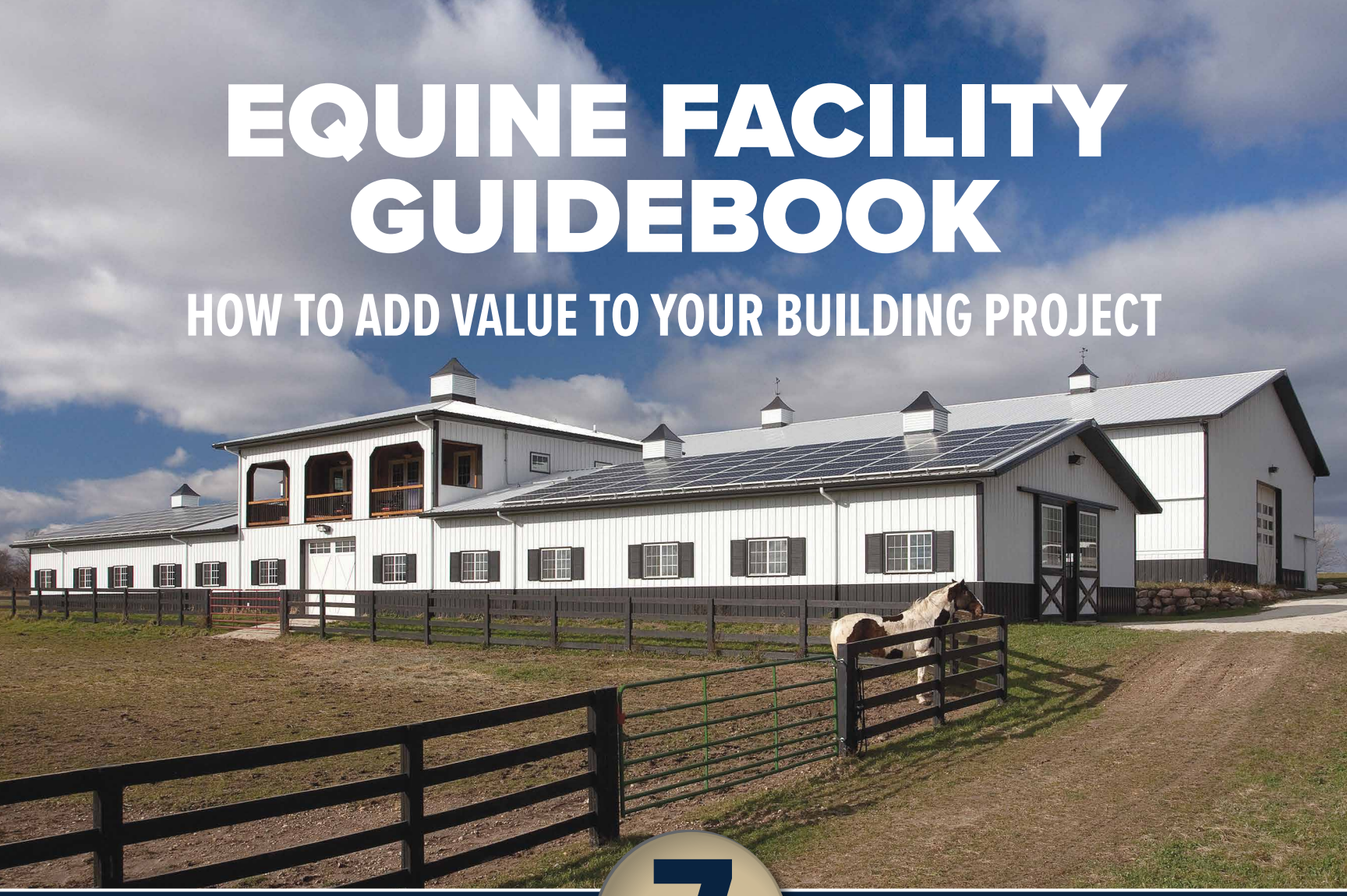
EQUINE FACILITY GUIDEBOOK

HOW TO ADD VALUE TO YOUR BUILDING PROJECT



7 TIPS

FBi Buildings

GOOD DECISIONS BEGIN WITH GOOD INFORMATION

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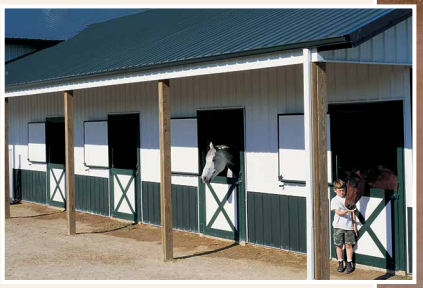
TIPS
TO ADD VALUE TO YOUR NEW EQUINE FACILITY

Introduction

Planning for a new equine facility is a challenging task. And building one is a sizeable investment. Making informed choices is essential, because this facility will not only impact the health of your horses, but also the effectiveness of your operation, the value of your land, and the quality of life for you, your workers, and your horses.

This guidebook is not an exhaustive volume on every point of planning and construction. Instead**, it's a distilled resource that focuses on 7 essential things you need to consider when planning your equine facility.** The information this resource contains was acquired through our decades of working with people just like you in the planning and construction of their dream barns. To augment that knowledge, we also interviewed consultants, professors, and leaders in the equine industry, along with an equine-focused architect.



Horses don't like being confined. Dutch doors open to the outside let them see out, breathe fresh air and enjoy their surroundings.

THINK IT THROUGH

7 Tips to Add Value to Your New Equine Facility

TIP #1

Congratulations! You are starting this project off the right way, by collecting valuable information, learning from others, and laying the groundwork for a successful project. You'd be surprised at how many people just rush into a building project without giving it careful consideration. Time invested now in planning will pay off with a much more effective building later.

Some people build a stall barn first and then add a riding arena later. This four-stall barn includes everything you need to get started – tack-room, wash bay and storage area.

Form or Function?

With your next equine building, this isn't an either / or question. There is no reason you can't have a building that meets your needs, provides comfort for your animals, and looks great, all at the same time. But think about how your new building will integrate into your property. Will it dwarf your other buildings? Will building styles match? What will it do to traffic flow on the site? Achieving a balance between aesthetics, function, and cost efficiency requires knowing the implications of your choices, something you'll learn through this guidebook.

Optional pine ceilings were added to this building for visual and literal warmth – something that will be especially appreciated by the people using the wash bay and tack room.

The facility pictured here features a separate stall barn, a horse barn with a detached 68' x 180' indoor riding arena featuring multiple windows for natural lighting. The 8' porch with a 24" overhang provides extra shade and the solar panels help to incorporate energy efficiency, with an added tax credit bonus.

Clarify Present and Future Building Use

How do you plan to use your facility? Commercial? Personal? Nonprofit? Breeding program? Riding program? Think through the space needed for the activities and equipment, as well as room for feed and hay storage. Would an indoor wash facility and a riding arena be of use to you? Will you need a vet service space, a viewing area, a lobby/lounge?

What types of people will be using it – family and friends, the public, little kids, experts or novices? What are the implications of that?

Sometimes it's the extra features that make a barn standout. And rather than just being expensive decoration, a good design can transform merely functional items into attractive features that become your favorite parts of a building.

Check out some of this facility's better points in the photos.

The use of this building called for a clubhouse (left), which was taken up a notch by adding a large covered porch that overlooks the lovely pasture (right). It's an important touch that can impress clients of a commercial facility.

The stall barn and detached riding arena are joined together by a delightful timber-accented breezeway (below). Good-bye ordinary connection. Hello architectural highlight.

(Continued on next page)

TIP #1 CONTINUED

THINK IT THROUGH

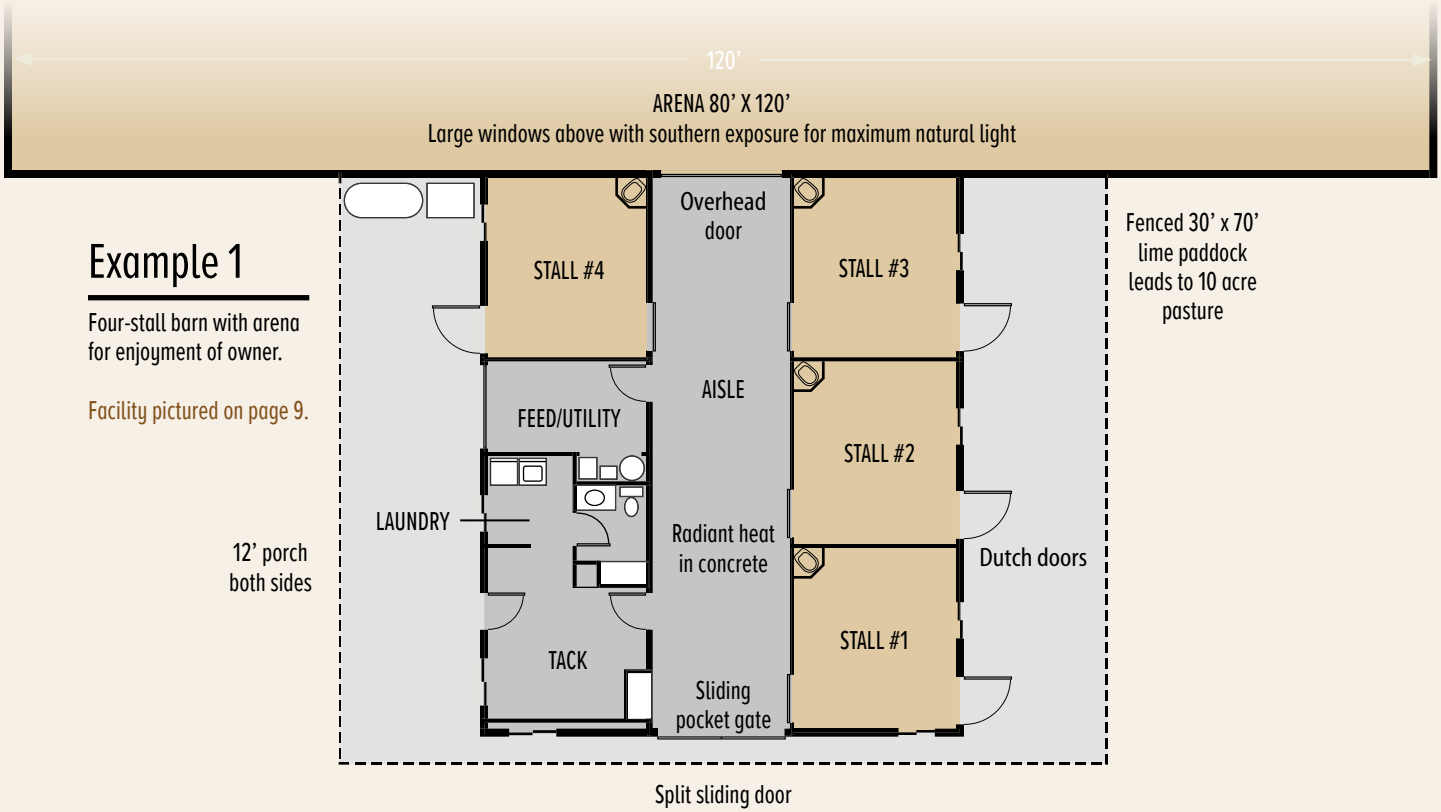
After you lay out the key needs and primary users, begin to picture traffic flow. How will horses, people, and equipment move around and through the facility?

And don't stop there–envision 5 to 10 years from now. How might your needs change? It will save time and money to plan for expansion now, before the building goes up.

It's also important to consider future resale. For instance, if you build stalls that only suit small horses, that will narrow the appeal for potential buyers later.

Learn From Others

Once you are clear on the purpose of the facility and have considered future possibilities, the next step is to go touring. Visit other facilities. Take pictures. Take measurements (these will help you when drawing up your plans). Ask questions. What do they love, what would they do differently?

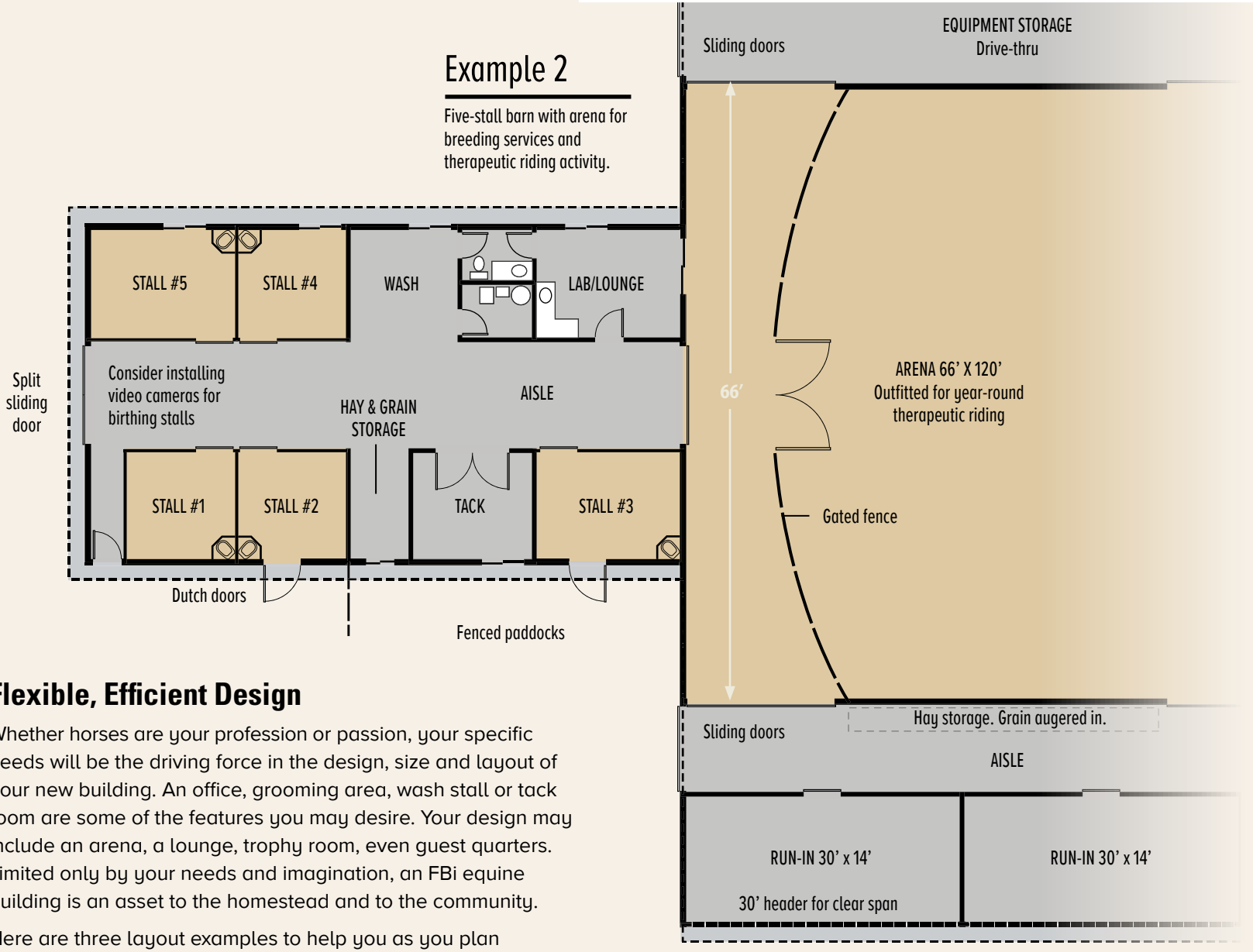


Not only is the interior layout of your horse barn important but so is the exterior. How will you access the building? Will you have room to take your horses out if the weather is nice?

Floor plan example 2.

Example 2

Five-stall barn with arena for breeding services and therapeutic riding activity.



Flexible, Efficient Design

Whether horses are your profession or passion, your specific needs will be the driving force in the design, size and layout of your new building. An office, grooming area, wash stall or tack room are some of the features you may desire. Your design may include an arena, a lounge, trophy room, even guest quarters. Limited only by your needs and imagination, an FBi equine building is an asset to the homestead and to the community.

Here are three layout examples to help you as you plan for your equine facility. To see more floor plan examples, visit www.fbibuildings.com/horse-barns.

TIP #1 CONTINUED THINK IT THROUGH

Whether you jump, do dressage, therapeutic riding or just ride for fun, FBi can create a functional arena space for you.

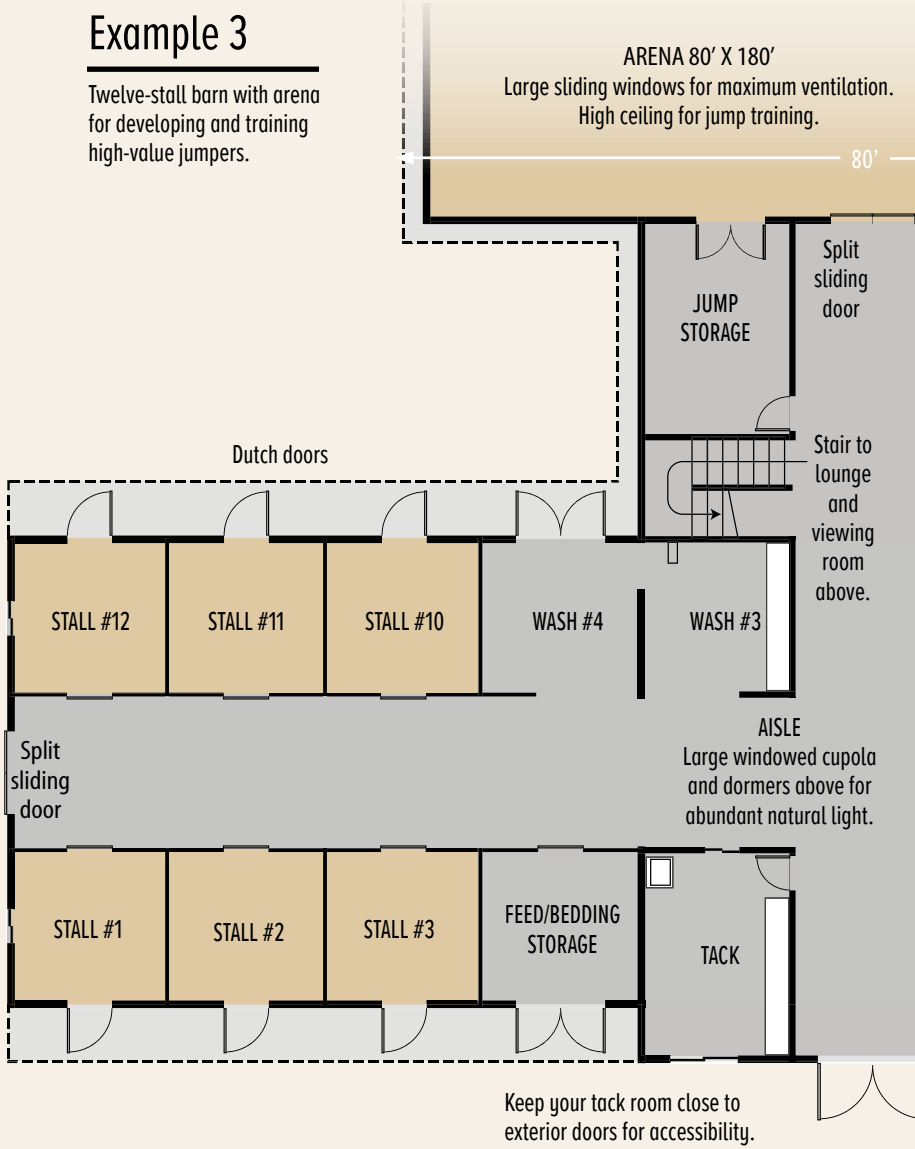
This multi-purpose room is equipped with everything you'll need. Cabinets, tie-ups, and handy hose rack.

Your tack room can be a showpiece that keeps all of your equipment neatly organized.

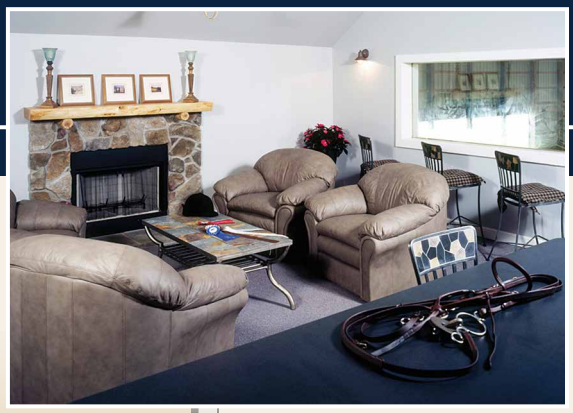
A feed storage room that is also accessible from the outside, makes unloading deliveries efficient.

Example 3

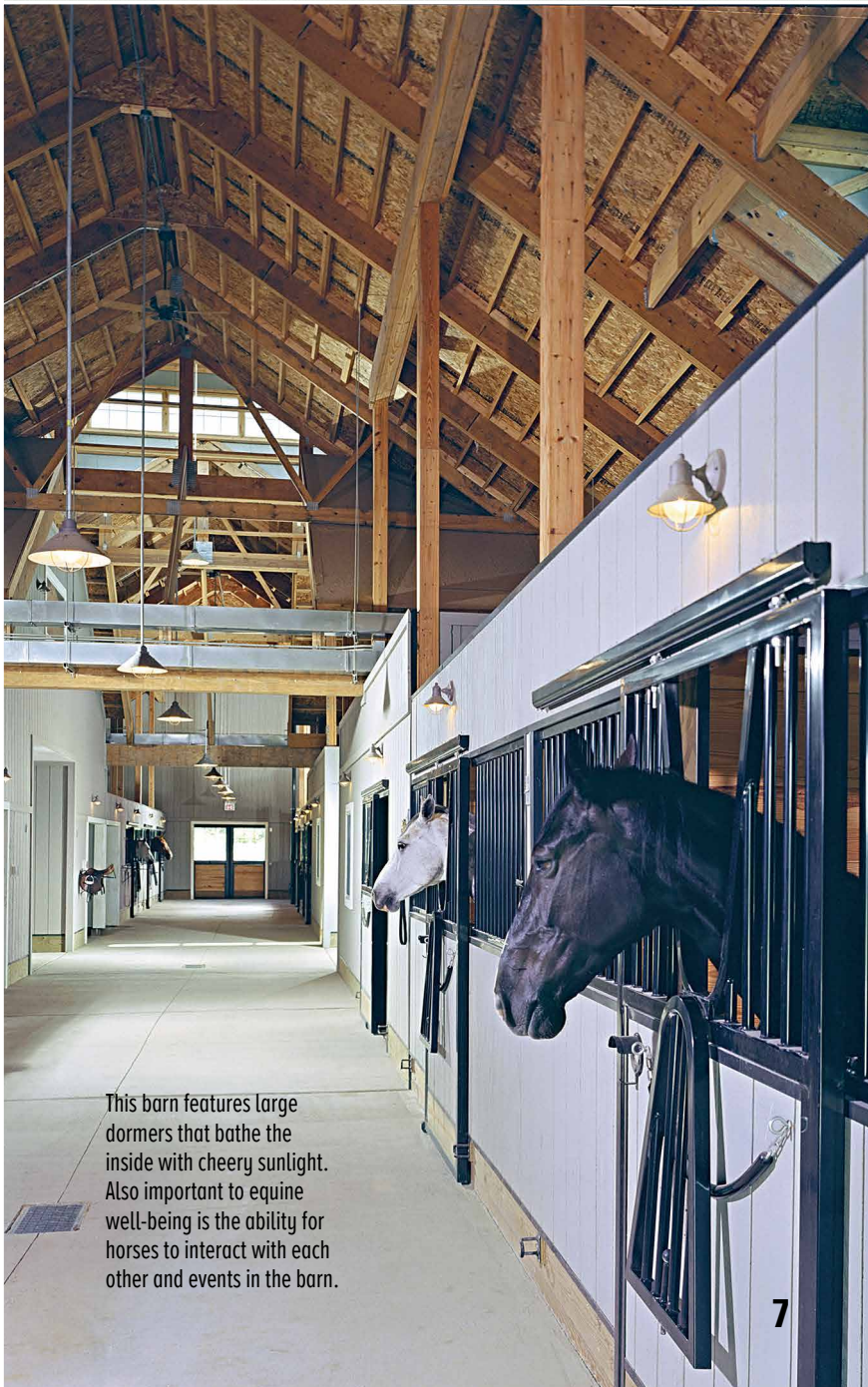
Twelve-stall barn with arena for developing and training high-value jumpers.



Keep your tack room close to exterior doors for accessibility.



This customer-finished lounge provides a comfortable gathering place and arena viewing area.



This barn features large dormers that bathe the inside with cheery sunlight. Also important to equine well-being is the ability for horses to interact with each other and events in the barn.

EVALUATE THE SITE

7 Tips to Add Value to Your New Equine Facility

TIP #2

A poor site - or a poorly prepared site - can ruin an otherwise excellent equine facility. Beyond that, site restrictions may keep you from even building the facility you want. The amount of land you can actually use to build may only be a fraction of the total site acreage. That's because easements, wetlands, flood plains, setbacks, and other zoning regulations can eat up a sizeable part of the site. Find out ahead of time if your site will work.

Determine Acreage Needs

The type of operation you have will dictate how much land you need. For instance, breeding operations need a lot of pasture, whereas training operations usually do not. If you will depend upon pasture to provide the bulk of your horses' nutrition, you should have at least two acres of pasture per horse. However, if you keep your horses in the barn and give them plenty of hay and exercise, a smaller pasture or smaller acreage can be used.

A well-maintained pasture is used primarily for grazing but also has the added benefit of being an area in which the horses can exercise.

Be Aware of Permit Issues

Don't forget that you aren't the only one interested in your site. So are your neighbors and the local and county regulatory bodies! How will the adjacent property owners react? It's best to find out ahead of time. Check the zoning regulations governing distance between property lines and other buildings. Find out if there are easements on the property. (Easements are usually on your Plat of Property Survey.) Are there requirements on the number of acres required before livestock can be housed? In most states, the county controls zoning and building permits, but you'll need to check subdivision covenants too for specific rules in excess of county regulations. If you need a variance for your building, get it now, before construction begins. Most people assume permits will be no problem, but everyone should start out assuming they will have permit difficulties.

This four-stall barn and arena features large 12' porches at the sides of the stall barn to allow horses to be outside and still be sheltered. An abundance of windows keeps the interior bathed in natural light.

Floor plan on page 4.

For some projects, a good place to start is hiring an engineering and surveying company to do a site feasibility study and analyze your soil. This will tell you the best location for your building and if the site will support a productive pasture. The type of soil will also determine the size and type of foundation you can use. If requested, a site feasibility study can also cover current land use, drainage, site utilities, zoning issues (that cover site setbacks, parking requirements, etc.) and will cover environmental concerns and permitting issues.

Moving Water In and Out

Consider the topography of the site. Proper drainage is extremely important. Water should drain away from the buildings, working rings, and tracks. Animal shelters should not be uphill of your water supply since run-off from manure piles could contaminate your water supply or nearby streams. The barn should set on a bed of coarse rock and be 6-12" higher than the surrounding ground with a 2-6% slope away. If the natural topography will not accomplish this, land grading and perhaps drainage tiling are highly recommended.

Moving water away is one thing. Bringing it in, is another. You'll need a strong, reliable source. A horse drinks between five and 15 gallons of water a day. But that doesn't include all the extra water you'll need to wash them, rinse bits, soak beet pulp, and cold-hose injuries.

Don't count on surface water – streams or ponds – that may be seasonal and of questionable quality. If you drill a new well, be sure to have the water tested for contaminants.

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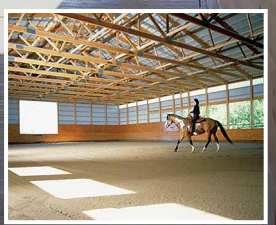
Safety and good design go hand in hand. Here is a beautiful example. Note the careful placement of lights and wiring, handsomely finished walls with no protrusions, optimal stall grid spacing and bird blocking. This owner has even installed a video system to monitor her horses from the house!



Even better than being outside! With plenty of sunlight, fresh air and an expansive view, working in this arena is a joy for rider and horse.

TIP #2 CONTINUED

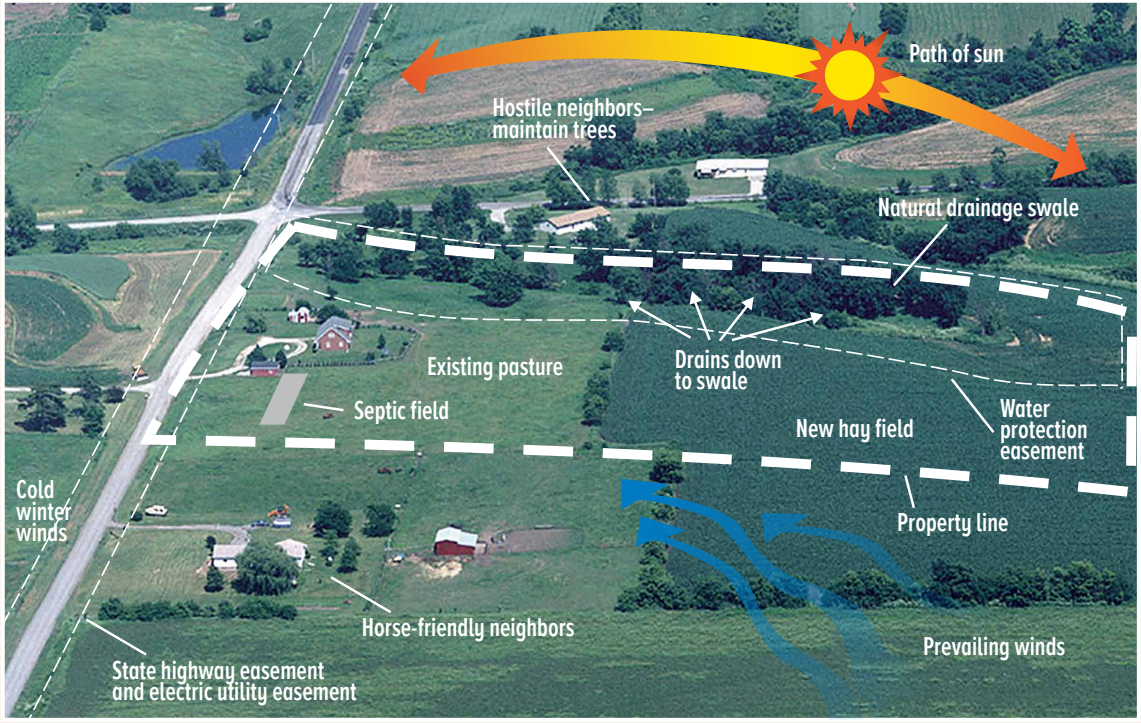
EVALUATE THE SITE

Access Considerations

Factor in plenty of space for delivery trucks, horse trailers and fire trucks to get to the barn and be able to maneuver and turn around. Expansion possibilities are also vital to keep in mind as you situate the building on the site.

Using and Managing the Wind

Use the prevailing winds to your advantage by situating the building so that the winds provide ventilation. Good ventilation is absolutely essential for the health of your horses. However, you must also consider downwind odor and dust, such as from riding in outside arenas. Think about the location of your barn and arenas in relationship with your home and also your neighbors'. Adding natural windbreaks can help mitigate these issues.



There are many factors to consider in selecting a site and locating your barn.

Barn Placement

There's no one right answer; it depends on your needs. Here are some examples:

- East/West barns have hotter stalls overall (especially on the south side), but a nice breeze with the wind down the center aisle.
- North/South barns have good air circulation in the stalls, but are hotter overall with a fairly even distribution of warming sun.

From: Mark Russell, Horse Farm Design

CREATE A HEALTHY ENVIRONMENT

TIP #3

As people, we prefer to live in warm, snug houses, so it seems counter-intuitive to us that horses actually prefer cool, breezy environments. But horses get respiratory problems if there is poor ventilation. The cold doesn't bother them. In fact, living outside is actually the healthiest environment for horses.

Getting the Air to the Horses

Having plenty of fresh air in the barn is essential, but to make sure it gets into the stalls, consider these design tips:

- Open space above the stalls – clear to the rafters is ideal.
- Open partitions starting halfway up on stall sides and front, covered with heavy mesh or vertical metal bars (grillwork) spaced no more than four inches "on center"… to prevent a head or leg from getting through.
- Open stall doors, made with bars [grilles] or expanded metal mesh on top. Mesh should be 2"x2" or smaller.

"Clear the Air," Practical Horseman, March 1995.

Why Ventilation is so Important

Humid air holds more contaminates, such as dust, molds and other microscopic particles. Your barn can have a humidity problem, even if the weather isn't humid. That's because the horses themselves contribute moisture to the air through respiration, urine, and manure. In fact, each horse exhales up to two gallons of moisture a day. And of course, the warmer it is in the barn, the higher the humidity can get. The Horse Industry Handbook recommends that inside barn temperature should be no more than five degrees above the outside temperature, in both cold and warm climates.

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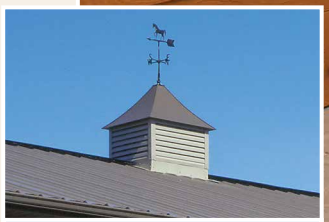
Open space above the stalls and a substantial roof pitch let stale air exhaust up and out.



Functional cupolas are an important part of good ventilation and add aesthetic value to the roof line.

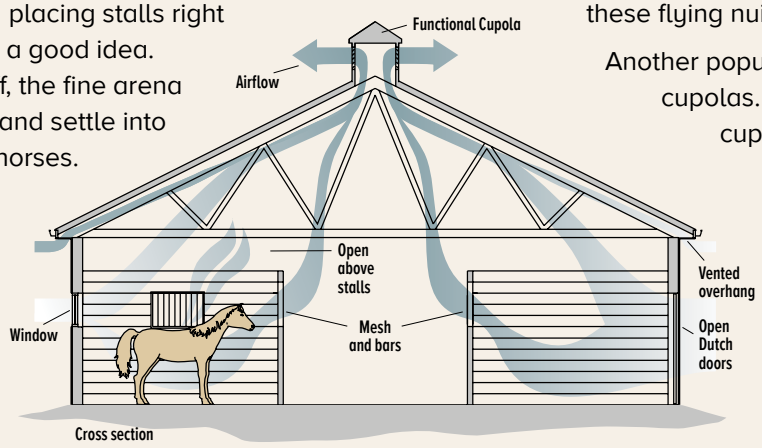
Removable cross pieces on door openings keep horses from getting out while allowing fresh air and light in.

TIP #3 CONTINUED

CREATE A HEALTHY ENVIRONMENT

Dust, mold and pollen can be introduced into the barn by riding in the arena, cleaning stalls, moving hay, grain, or bedding. These irritants can cause all sorts of respiratory problems. Good ventilation removes excess humidity, heat, and contaminants. Poor building design can aggravate matters. Storing hay in lofts over the stalls causes airborne irritants to filter down to the horses and blocks the warm, stale air from moving up and out of the stall area. And placing stalls right next to the arena may not be a good idea. Even if the arena is walled off, the fine arena dust can still find its way out and settle into the stalls and be inhaled by horses.

Ammonia fumes are also a problem. They are released by decomposing manure and urine. The fumes can cause inflammation in the lungs if not exhausted and replaced with fresh air.



Design your building to provide healthful ventilation.

How to Achieve Proper Ventilation

The Horse Industry Handbook says that there should be a fresh air exchange at least four - and preferably eight - times per hour to reduce contaminants to tolerable levels. (Compare that to just .5 exchanges/ hr. in a modern house.) As already mentioned, situating your building with the doors and windows open to the prevailing winds is a good place to start. But adequate ventilation also requires certain building features, such as vented overhangs, cupolas, fans, and vented ridge.

Vented overhangs (of at least 12”), when combined with a vented ridge, create “a ‘baffled’ inlet: Fresh air flows in and down stall walls without sending a draft directly over horses. This equalizes the inside and outside temperatures and minimizes condensation. Be sure your builder has a good system for preventing birds from nesting, since vented ridges and overhangs seem especially attractive to these flying nuisances.

Another popular method is using cupolas. Many people add cupolas to their buildings for aesthetic value alone, but cupolas were originally designed for ventilation, not decoration. Make sure you specify functional cupolas. Cupolas need to be quite large to provide effective natural ventilation. If you prefer a smaller, more decorative-looking cupola, consider adding fans to the underside of the cupola to provide adequate air movement. When vented overhangs and cupolas are working together they create low or negative air pressure that pulls cool air into the barn and sucks warm air up and out. Steeper roof pitches enhance the “chimney” effect of natural convection.

This handsome stall barn at a historic college has extra wide aisles to accommodate the flow of animals, tractors and people. A steeply pitched roof with full-length ridge vent provides excellent ventilation.

Fans can augment and regulate your buildings natural ventilation. This is especially important if your building's airflow is constrained by adjacent buildings, hills, or other factors. When installing fans, keep in mind that distribution and air flow within a building is almost completely determined by location and design of air inlets and outlets and not by fan location.

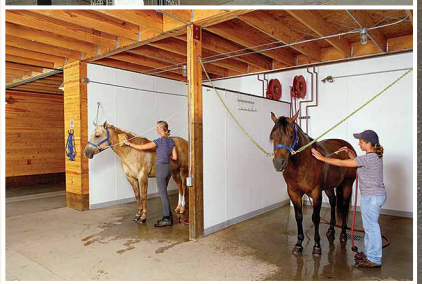
Insulation is something you may not have considered when thinking of ventilation. But since it causes a difference in temperature between inside and outside, it aids air circulation.

Although the horses don't need it, their handlers are much more comfortable in a heated building. Mechanically heating a building makes air quality more challenging since human comfort and cost efficiency are at odds with sufficient ventilation. Consult your builder and an HVAC expert to discuss how to keep these opposing needs in balance.

Sunlight is Important too

Last, but not least, are strategic placement of doors and windows. Not only do they provide ventilation, a view, and enhance the visual appeal of your facility, they also let in lots of light. Clear or soft white polycarbonate panels can also provide natural light. And light has the big side benefit of making horses happier (and people too). Horses came from the wild and thrive in the sunshine and wind. They won't do well in a dingy environment.

Vet room makes for a quiet place to consult and treat animals.



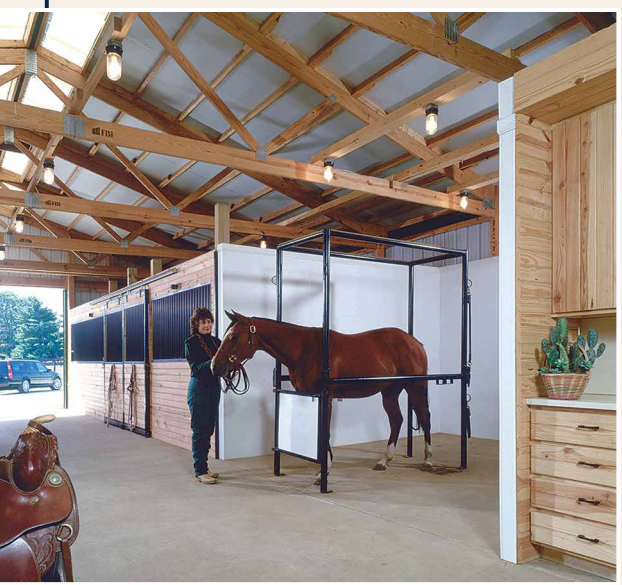
Wash stalls lined with glassboard shed water and are easy to clean.

A wide, spacious aisle way prevents bottlenecks in this busy barn. These beautiful stalls include small access doors in the grilles. Swing out feeders, feed racks and other conveniences are also available.

TIP #4

Eliminate Common Hazards

Don't let your barn be a hazardous place for your horses... or for you. Nonslip flooring, such as rubber tile or textured concrete is especially important in wash areas. All surfaces that horses have access to should be smooth – no nails, wires, or sharp corners. Potential trouble areas are the edges/corners of mangers, hooks for cross ties, hay racks and door latches (they should lie flush at all times). And check with your builder to see what they do to clean up the site after construction. Some "sweep" the area with a powerful magnet to pick up stray nails, screws or scrap metal.



Covered lights, unobstructed aisles and smooth surfaces are just a few of the safety design elements in this barn.

Tools and pitchforks should not be stored anywhere that horses normally access and be sure that tack hooks are located so that humans or horses don't bump their heads.

In arenas, stirrup guards keep riders and horses a safe distance from walls and doors. They can be designed to swing open to provide access to the doors. Stirrup guards can be designed several ways, but the ideal kind is angled. This is because horses are normally only aware of their own body and riders' legs stick out farther than the horses' sides. The sloped guard provides more room at the top where it's needed.
See photos on next page.

Hay is a fire hazard. If you choose to store it in the barn, it must be well ventilated. Don't stack hay right up next to the walls or ceiling. Moisture in hay causes it to grow mold and ferment – which leads to heat...that can build up to the point of spontaneous combustion. Leave space all around hay stacks and check hay often for heat and mold.

Electric lights can be a potential fire hazard, so follow these guidelines: keep them clean. Regularly sweep off combustible cobwebs. Consider using fluorescents or LEDs, which burn cooler, instead of incandescent bulbs. And no matter what type of lighting you use, keep it encased in sturdy wire cages to protect from breakage.

To be extra safe, unplug all electrical devices that might "fry" if the building is struck by lightning – even if it has lightning rods. And speaking of wiring, all wiring should be encased in metal conduit to protect it from rodents and horses. The safest outlets are the covered, outdoor spring-loaded kinds that keep water, dirt and curious animals out.

Think about interior clearances. In the stall barn, will your horses be injured if they rear up? 10-12 ft. clearance over the stalls is considered a safe height. In the arena, clearance should be a minimum of 16 ft. if jumping horses, 14 ft. if not.

If your building will have steel siding, consider installing a plywood or OSB backer board behind the steel on the walls that horses will be able to access. This helps prevent horses' hooves from penetrating the wall if they

Swing out feeders are a popular option to save steps and speed feeding chores.

Spring loaded latches snap into open position to prevent horse injury and to avoid accidental door locking.

kick it, saving them from potential injury. For even greater protection, consider using 2x8 or 2x6 lumber instead of plywood for the backer.

In the stalls, make sure that if you have gaps in the stall partition walls (for ventilation) that they are not large enough to get a hoof caught in. A good guide is no larger than 2.5 inches for adult horses or 2 inches for foals.

Other Considerations

Not only does natural light make horses happier, but it also kills some parasites and airborne viruses. (Be sure glass windows have protective grillwork on the sides directly accessible by horses.)

Some horses can be spooked by shadows, making adequate, properly placed artificial light necessary.

Is security a concern? Tack and equipment are valuable and rural buildings can be targets for enterprising thieves. Consider how you will secure your doors and windows.

Although not pleasant to consider, a tornado-safe room and firewalls can add peace of mind.

Exterior doors accessing each stall allow for quick evacuation of horses in the event of a fire. And last, but not least, install fire extinguishers so one is always nearby and prominently post emergency numbers.

Stirrup guards are available angled or straight. Angled guards keep riders a safe distance away from the wall to prevent injury to the rider.

Notice the number of fans above the stalls – proper ventilation can decrease the level of respiratory problems and inhibit the accumulation of dust, molds and other air contaminants. Also note that these utilities and lights are safely put in place with wiring that is completely encased in metal conduit keeping everything protected.

TIP #5

Insulation Guidelines

Insulation increases comfort and decreases heating (and possibly cooling) costs. While you may not need to insulate the entire barn, consider insulating the roof. There are many types of insulation, but polyisocyanurate rigid insulation (such as Dow's THERMAX™) is recommended. Be sure to tape the joints to prevent air and moisture flow at the seams. Black board type insulation is not recommended because it can trap moisture and cause your roof steel to rust.

Good facility design, such as large doorways and efficient "traffic" flow, makes routine tasks more enjoyable

Labor Efficiency

Save time and money by bringing electricity in at one place, rather than running multiple lines. Water lines should also come in at one place, then branch off once inside the building. That way you'll know where to dig if you have a problem, such as a frozen pipe.

When planning the facility, take into account how you will feed horses, clean stalls, and maintain the building. If you plan a building that will require more labor than you have time for either you will be overworked and frustrated, or your horses will not be cared for as well as they should be. Plus your operating costs will be higher. Consider hay storage, for instance. Storing hay in a loft above stalls is very labor-intensive. Finding a dedicated space on ground level is more efficient.

Make sure you have an interior clearance – and doors – that will accommodate the largest and tallest pieces of machinery that will need to enter the building. Verify that there are not peak elevation restrictions due to zoning that will constrain this.

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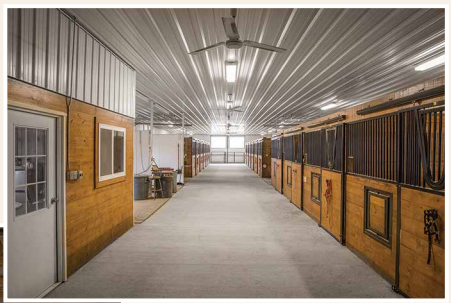
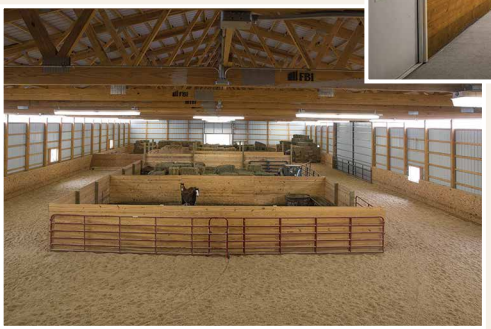


If cleanliness is a priority, a steel lined interior lets you quickly and easily pressure wash the dust and cobwebs away. *Mechanical ventilation would be required with any introduction of water.*



With plenty of room to run the perimeter of the arena, this facility has been set up to maximize the functionality of the interior areas as well. There is space dedicated to training, as well as storage for hay and wood chips.

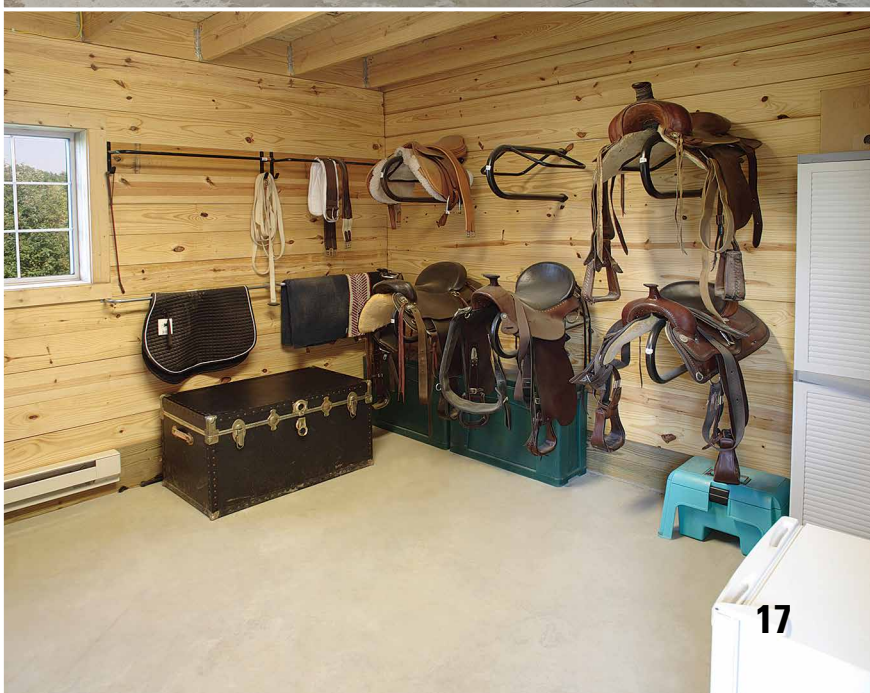
A well-designed horse barn will be an attractive asset to your property. Our designers will work with you to get the look and the functionality just right.

If you choose a high interior clearance with a steeper roof pitch, take advantage of that space with a second story or loft. You can never have too much storage.

Sizing Things Up

- Aisles in private barns - 12 feet wide. Boarding stable aisles should be 14 - 16 feet wide.
- Doorways for access to aisles– at least 10-12 feet wide and no less than 8 feet high. *FBi recommends doorways be 10 feet high.*
- Overhead doors – should allow at least 9 feet of headroom when they are open.
- Stalls – 12′ x 12′ is standard (actual inside stall dimensions are 11′ 4-1/4″ x 11′ 7-1/2″)
- Stall walls – 7 or 8 feet high, but clearance above stalls should be at least 10 feet.
- Stall doors – at least 4 feet wide (larger for mare/foal stalls) and 8 feet high.
- Half-doors and windowsills – at least 4 feet from the ground (higher for big warmbloods).
- Wash racks/grooming area – 12′ x 12′ is standard, although a larger size is more convenient.
- Walk doors – 4 feet wide… or wide enough for your largest wheelbarrow.
- Tack room – figure on about 20 square feet per stall.

Farm & Barn Report - Barn Planner's Checklist, and *Practical Horseman*, May 1996 with some modifications and updates by FBi's equine experts.

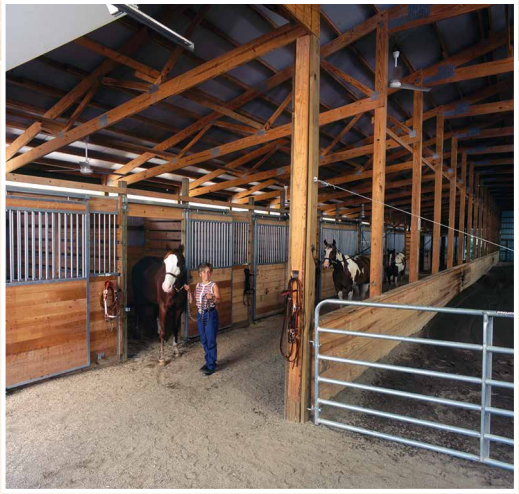


TIP #5 CONTINUED

BUILT-IN COMFORT, FUNCTIONALITY AND LOW OPERATING COSTS

Manure Handling

One area that will require a lot of labor is manure handling. An average-size draft horse produces approximately 40 pounds of manure per day. That adds up to more than seven tons of waste per year, per horse! There are six choices for managing waste: 1.) Recycle it through use of a compost pile. 2.) Spread it. 3.) Keep your horses in the pasture a lot. 4.) Offer it to others as fertilizer. 5.) Bury it. 6.) Dispose of it – if your waste-removal service will



When handling bulky materials, use straight-line movements through wide doors. Avoid stable designs that necessitate turns and tight passages for travel from stall to manure deposition area.

Stall floor options

A good stall floor should be durable, not slippery, absorbent, resistant to pawing & circling and be affordable to purchase and maintain.

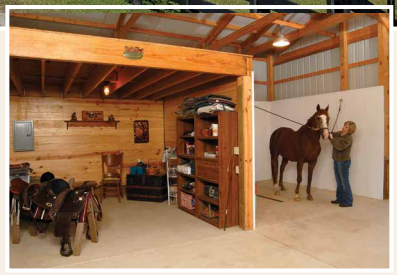
- Clay – tends to develop holes and pockets. Hard to keep level.
- Clay (2/3) and Sand (1/3) – least costly and easiest to get. Good drainage if mixed well and packed down.
- Limestone dust – put over base of coarse rock and 6-8 inches sand for drainage. Top that with 4-5 inches of limestone. Wet and pack down to concrete consistency. Use same grade of limestone as is used on harness horse tracks.
- Concrete – easy to clean. Need bedding to soak up urine. Can cause leg problems.
- Asphalt – Can use 20% less bedding than concrete. If not sealed, allows some drainage and is less slippery. Also hard on legs.
- Rubber Mats – Should be at least 5/8 inch thick. If they are solid, bedding will be needed to absorb urine. Requires a level, well packed floor.
- Alternative Flooring – Choices include: interlocking rubber paving bricks, fiber-reinforced polyethylene interlocking blocks and polypropylene mats. They offer comfort, shock absorbency, less moisture and are easy to clean. But they are very expensive. Choose the floor system that best meets your needs, budget and horsekeeping philosophy.

Stall floors are safer and softer with interlocking rubber mats under bedding material. Note the use of shredded rubber on top of a prepared soil base in the aisle.

Mark Russell, *Horse Farm Design.*

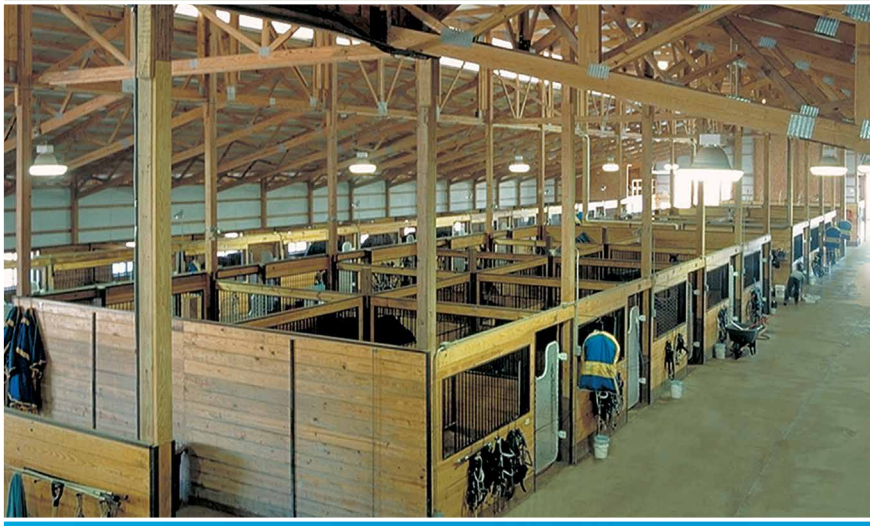
take it. Using less bedding can also reduce the volume of material that must be removed. Whatever method you choose, be sure that your barn and site are designed to make it as easy and efficient as possible.

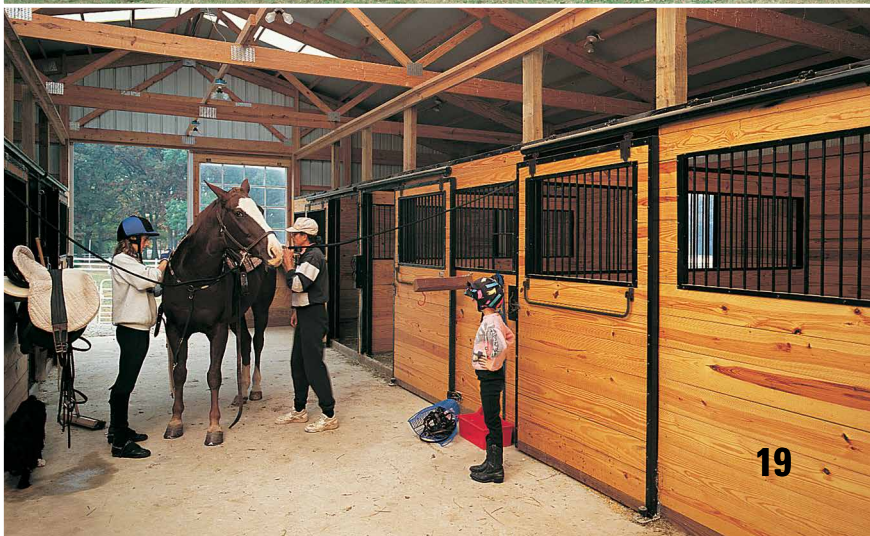
These stalls are built from solid #1 grade tongue & groove lumber and include easy-to-slide latching doors, removable partitions, and feeder openings. Options such as steel capping, window grilles, swing-out feeders and Dutch doors are also available.



Reduce Future Maintenance

Finally, top-quality building materials may cost more up front, but will save you money down the road. We'll discuss your building materials choices – and things to look out for – in the next section.

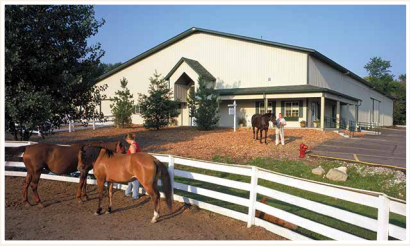




TIP #6

USE THE RIGHT MATERIALS

What makes a building material "right" isn't so much the inherent pros and cons of steel, wood, or block/brick. The secret is to use each material for what it does best; matching the material to the application. Getting that right mix is what is important.



Steel Exterior

Block Exterior

Wood Exterior

Exterior Choices

When it comes to siding, steel is a popular choice. And for good reason. It's economical, maintenance-free, durable, and comes in a wide variety of colors. But not all steel is created equal. The best is heat-treated, full-hard, high-tensile strength steel. The downside of steel is that it can rust, and the paint can chalk or fade over time. Both of these problems can be virtually eliminated if using a premium-grade corrosion treatment, such as Galvalume, and advanced paint system, such as Kynar, instead of the typical industry standards.

Wood siding gives a very traditional feel. It's strong, attractive and a good insulator. Additions to the structure, such as adding fans later, are easier with wood than if working with steel, block, or brick. However, external wood siding will require regular painting or staining. Soft wood can be chewed on by horses and you must use treated wood anywhere it will be in contact with soil or manure. In general, wood costs more than steel siding, but less than block/brick. Block or brick is fireproof, offers excellent durability and low maintenance. The drawback is the high expense. Brick and block are labor-intensive and blocks should be filled with concrete to five feet or more so they won't shatter if kicked.

There are two main choices for roofing: shingles (with plywood or O.S.B. decking) or steel. The steel will outlast the shingles and likely cost less. Insulation is recommended when using steel to normalize temperatures, reduce condensation and muffle the noise of rain hitting the roof.

Interior Options

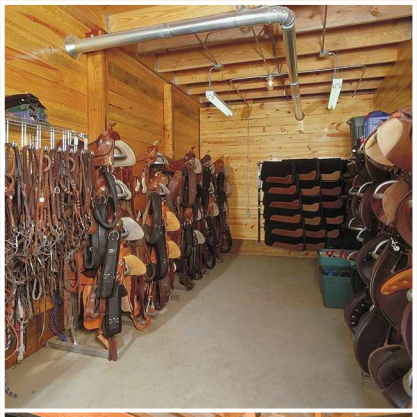
Interior columns, trusses, and walls are normally made of wood. It's strong, easy to work with, and when it is inside and protected from the elements, easy to maintain. Wood columns should be laminated for maximum strength and to eliminate twisting or warping. The grade of lumber makes a big difference too. Ask your builder what grade they will be using. MSR (Machine Stress Rated) lumber should be used for critical structural members, such as trusses.

For stalls, oak is an excellent, but pricey, choice. Yellow pine is a less-expensive, and acceptable standard choice. Softer wood than this is not recommended. For wash stalls, consider steel, fiberglass reinforced plastic

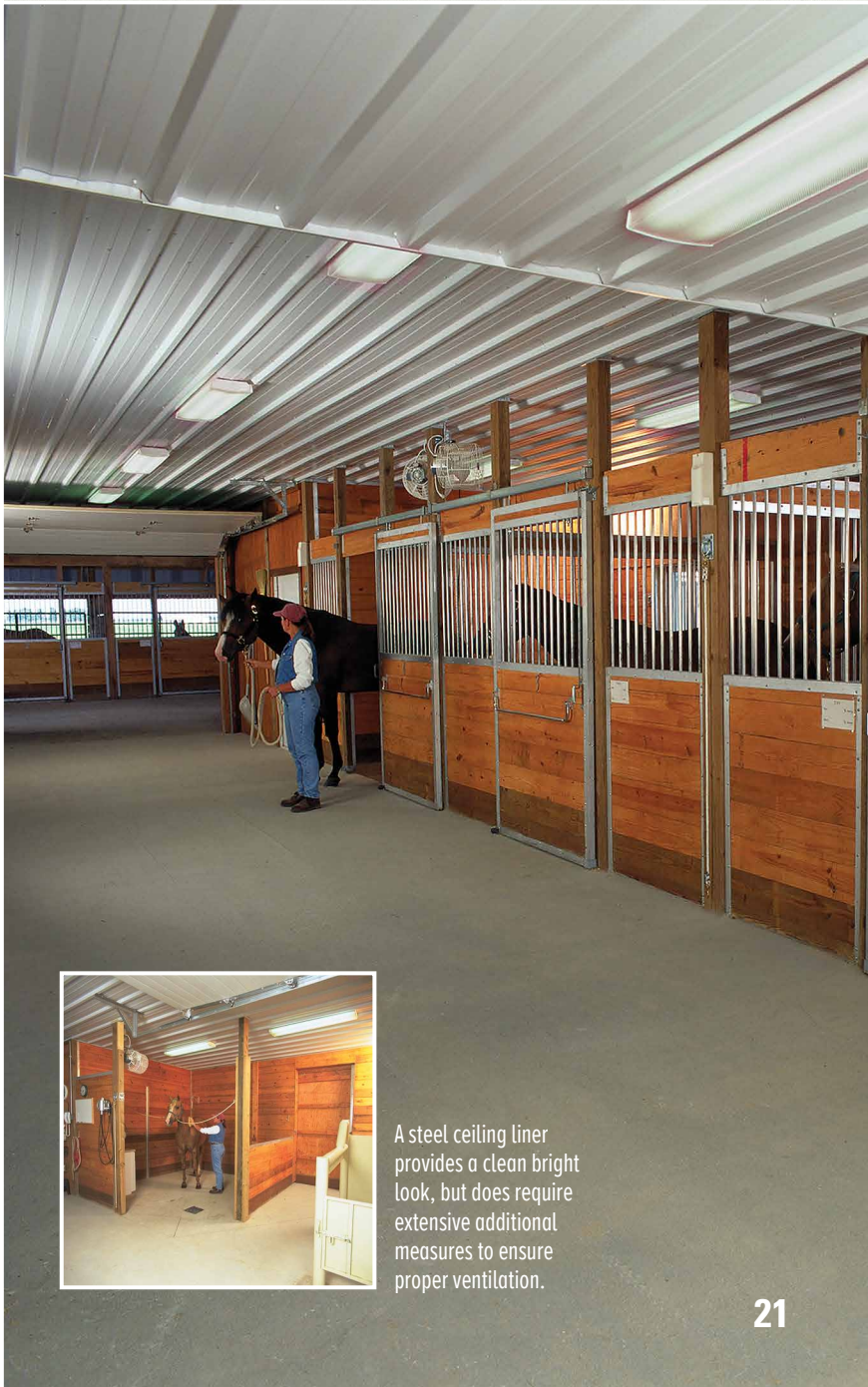
Although “T” and “L” shaped barns are the most common configurations, horse facilities can come in a wide variety of shapes and sizes. The key is... what works best for you? Your project sales consultants should seek to understand your needs and recommend the best solutions.

(FRP) or high density polyethylene panels (HDPE). These materials are moisture, stain, and odor resistant while easy to keep clean.

Choose doors and windows which will stand up to abuse, be convenient to use and have hardware which doesn’t pose a safety hazard to horses. Window type is a personal preference. In a barn, the tracks on sliding windows can fill up with dust, dirt and hay. Since casement windows jut out when opening, they can be an exterior safety hazard. Double-hung vinyl windows are a good all-around choice. Walk doors should be solid, or insulation-filled. Hollow core doors are too easily punctured by a hoof or tool. Strong, yet lightweight aluminum-framed sliding doors move easily and allow for wide openings.



Most builders offer several standardized packages, each of which can be customized by adding options. There’s sure to be a combination for nearly every need and budget.

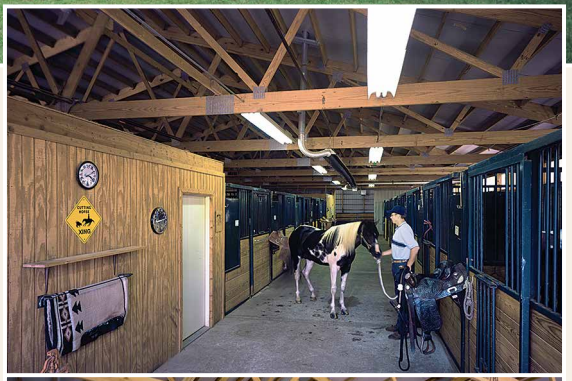


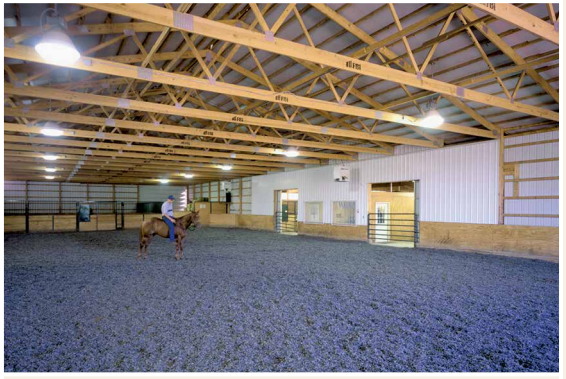
A steel ceiling liner provides a clean bright look, but does require extensive additional measures to ensure proper ventilation.

TIP #7

Knowledge and Experience

Look for a builder who has the expertise necessary to lead you through the entire process, answer your questions, make suggestions and serve as an equine building consultant – not just a salesman or estimator. And make sure the company has extensive equine experience.





Safety

Ask about how the builder approaches safety. A responsible builder will check your site to verify hazards, such as gas lines, water line, electrical lines, etc. He should also insist on safety requirements such as hard hats, safety glasses and fall protection. Neglecting safety can put you at risk. For instance, if a crewperson falls during construction on your property and is injured due to lack of fall protection and/or hardhats, you could find yourself liable.

Integrity, Reputation and Stability

Consider the company's track record. What do others say about the company? How long have they been in business? Will they still be around if you need an addition? If expansion is in your future, this is vital. Otherwise you could end up with an addition that doesn't match the original building.

Post-Sale Services

Service after the sale can't be overstated. The best builders have special crews to respond to post-construction concerns. And if disaster strikes, like wind, hail, fire or vandals, your builder should have the capability to respond rapidly to get your building secured and restored. If you choose a builder who can do both new construction and restoration & repair (two very different specialties), your current buildings and new building can have a uniform look.

Other Considerations

Whatever builder you choose, make sure to discuss all the details. Who will handle trash pickup? Will they be building just the shell? Who will put in the stalls? How do they handle change orders? What payment structure is expected? When do they anticipate starting construction? A good builder will take the time to go over all the issues. In addition, ask about the complete team that will be managing your job. Does the builder have experienced project managers and construction crews? What are their qualifications? In the end, this is more important than how well you like the salesman.

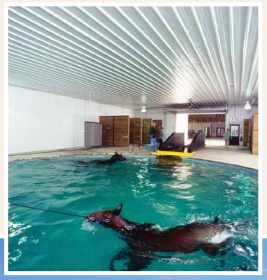
ENJOY THE BENEFITS

For some people, raising/breeding/boarding horses is a business. For others, it's a hobby. But for everyone, it's a passion. The right building will enhance that passion – not get in the way of it.

We believe the knowledge you gained through this resource will make things go much more smoothly and quickly than they otherwise would have. And once you have your facility built, you can enjoy many years of safe, enjoyable and efficient horsekeeping.

Notes

Your work with horses may be a hobby or a business. Either way, it's a lifestyle. Make sure your builder understands your interests and needs.



This guidebook presents general guidelines that may not apply to your specific situation. All information herein is deemed accurate, but FBi Buildings cannot be held responsible for any erroneous information or for any problems caused by following the guidelines.

This facility for racing horses has a two-story office/administrative space centered between two large stall areas. Also included is an equine exercise/therapy pool.

This customer-finished lounge provides a warm, comfortable gathering place and arena viewing area.

7 TIPS TO ADD VALUE TO YOUR NEW EQUINE FACILITY

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